



APPLICATION NO. 09/826,118
INVENTION: Wavelet Multi-Resolution Waveforms
INVENTOR: Urbain A. von der Embse

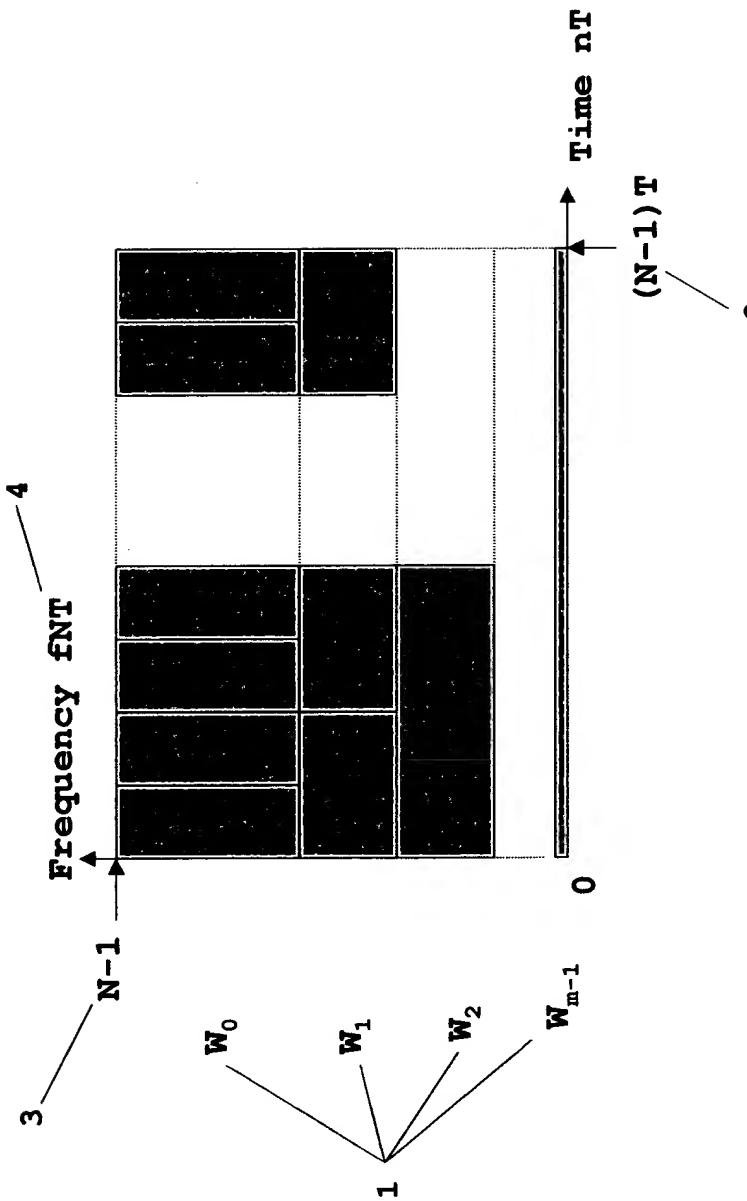


DRAWINGS AND PERFORMANCE DATA

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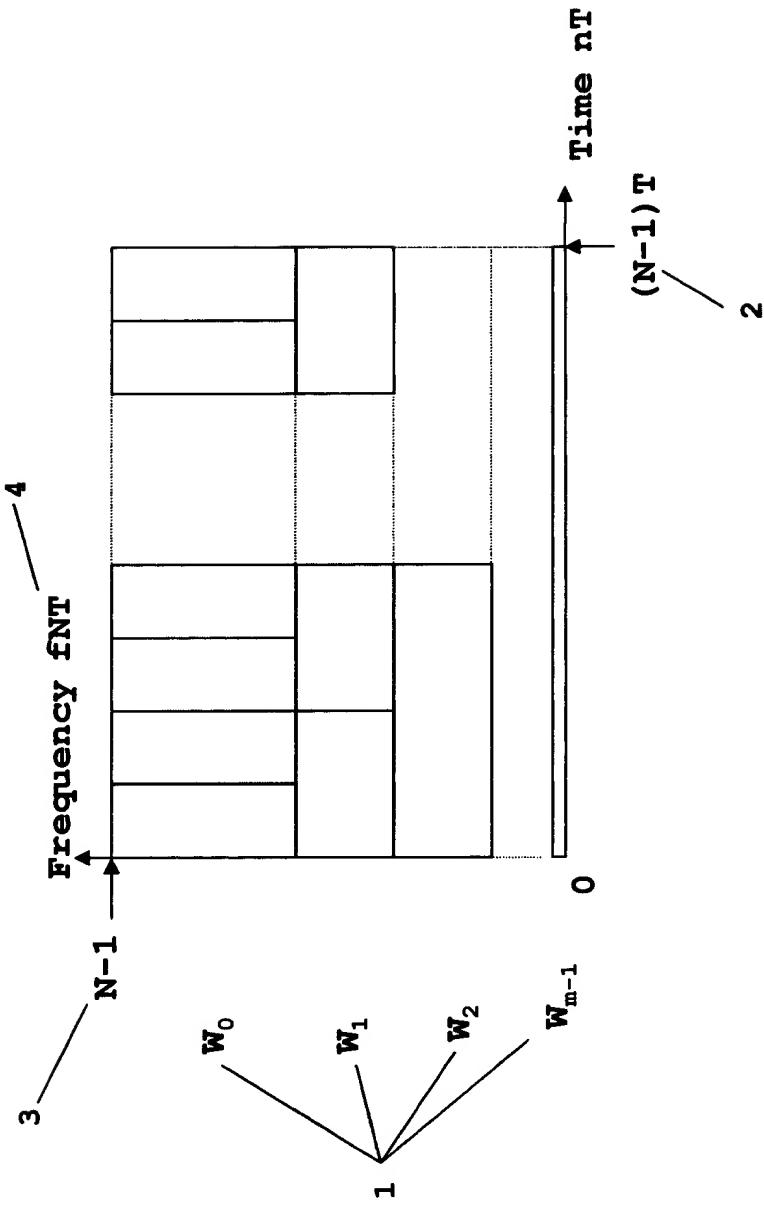


FIG. 1 Wavelet Tiling of an N-Point Digital t-f Space



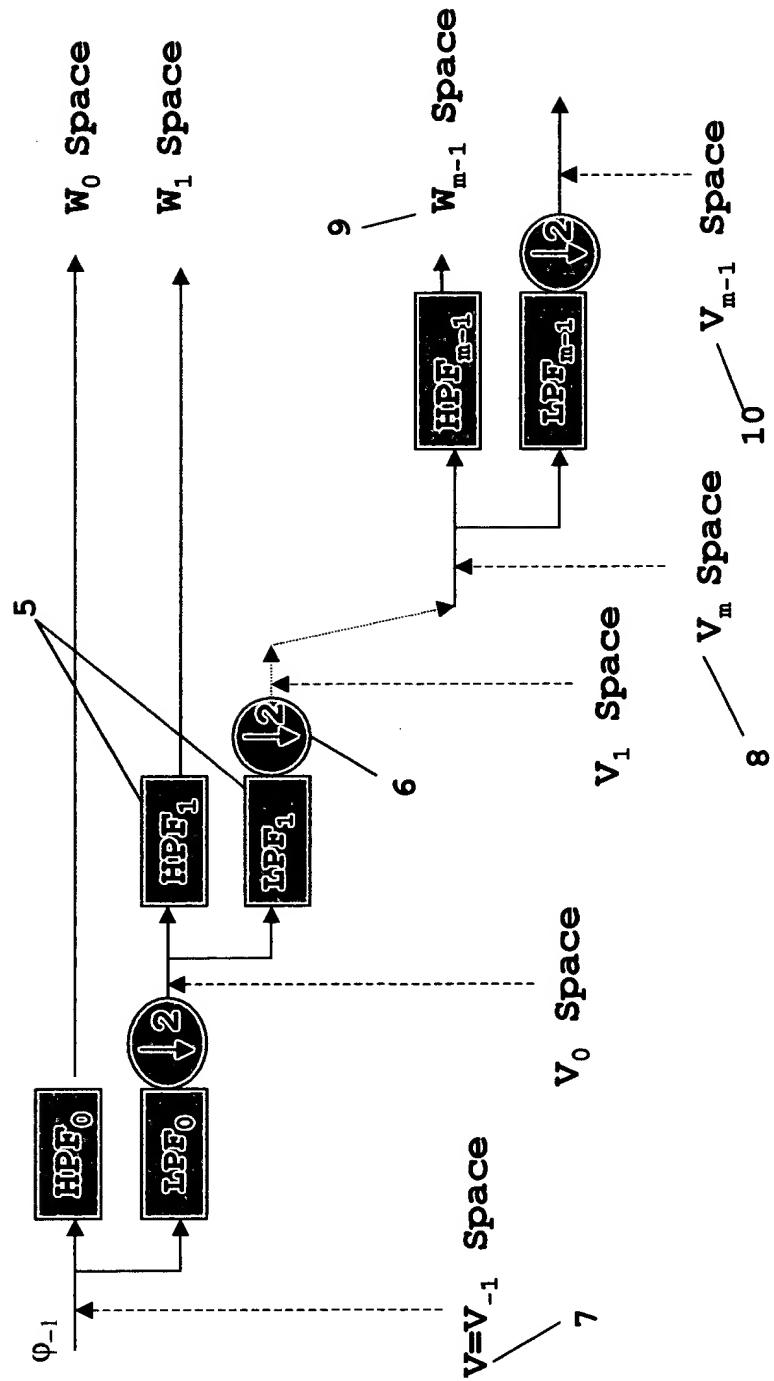
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FIG. 1 Prior Art: Wavelet Tiling of an N-Point Digital t-f Space



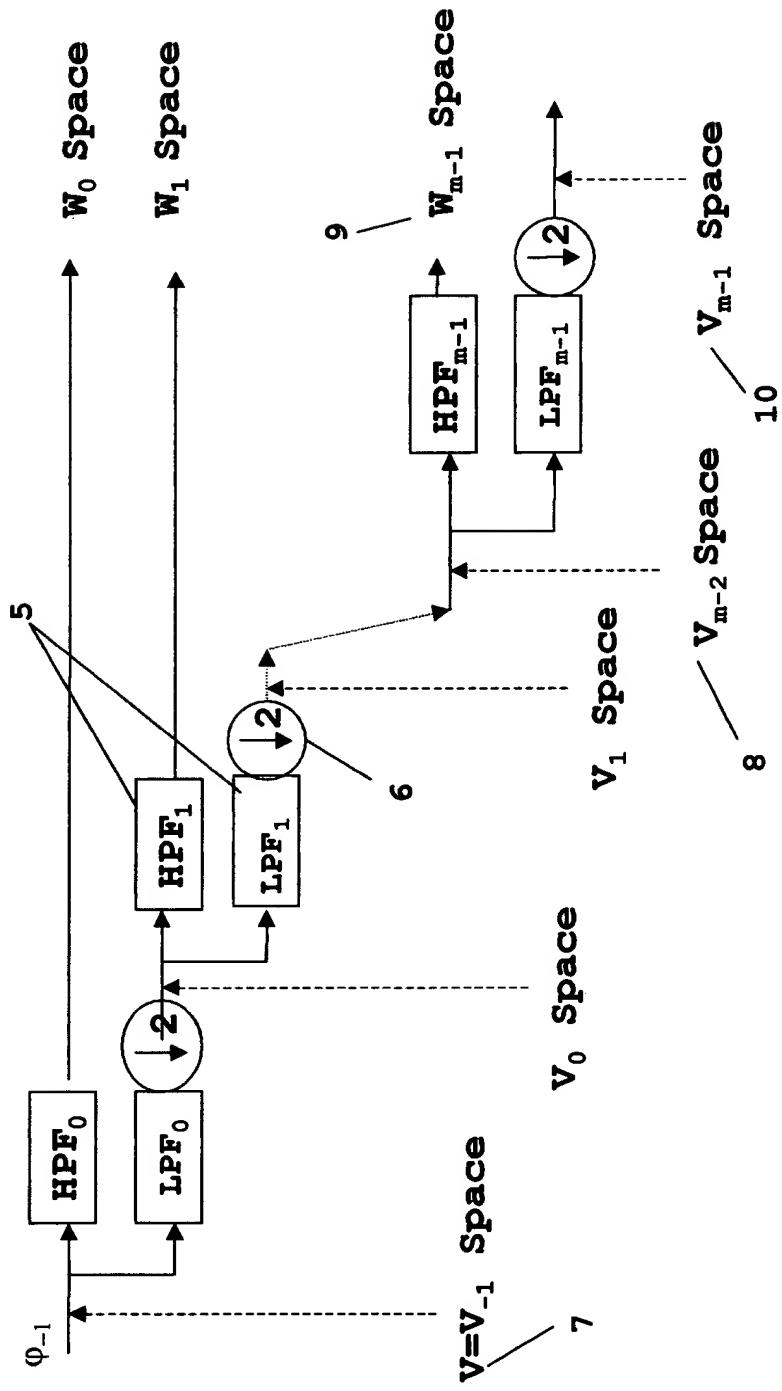
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FIG. 2 Wavelet Iterated Filter Bank for Tiling $t-f$ Space in FIG. 1



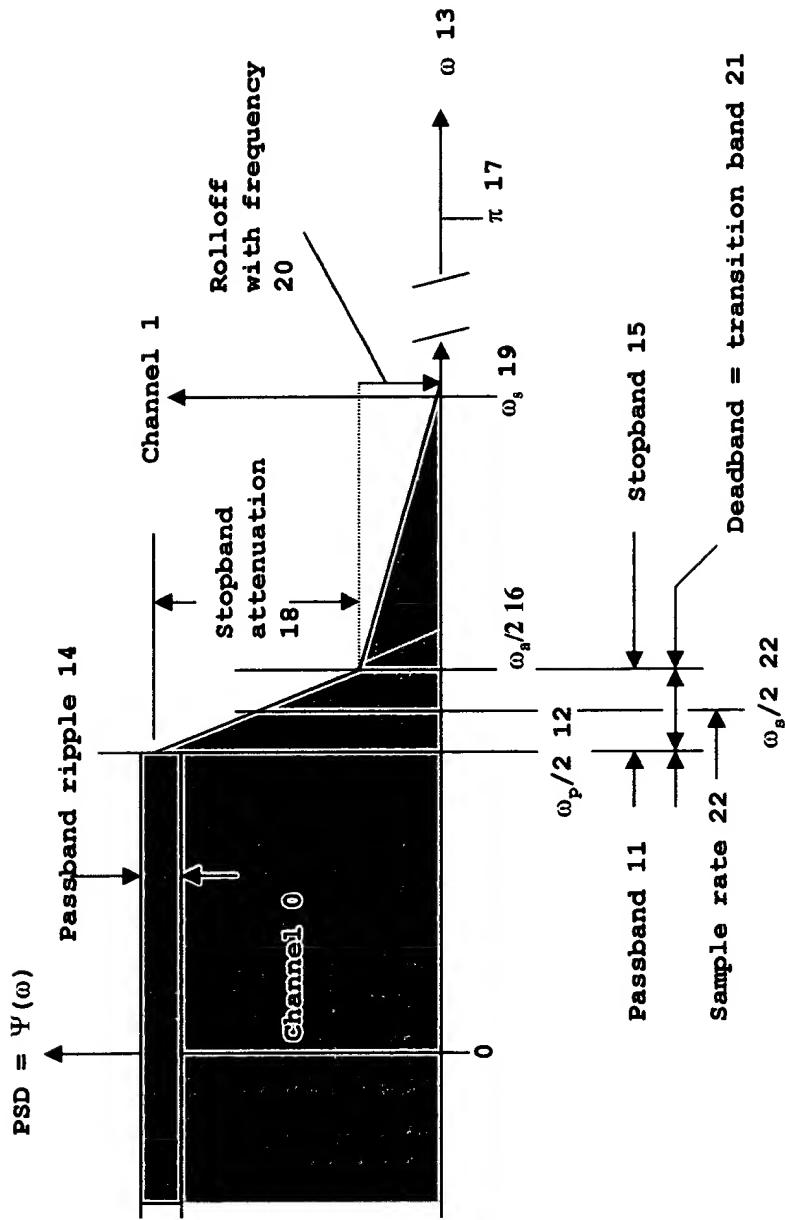
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FIG. 2 Prior Art: Wavelet Iterated Filter Bank for Tiling t-f Space in FIG. 1



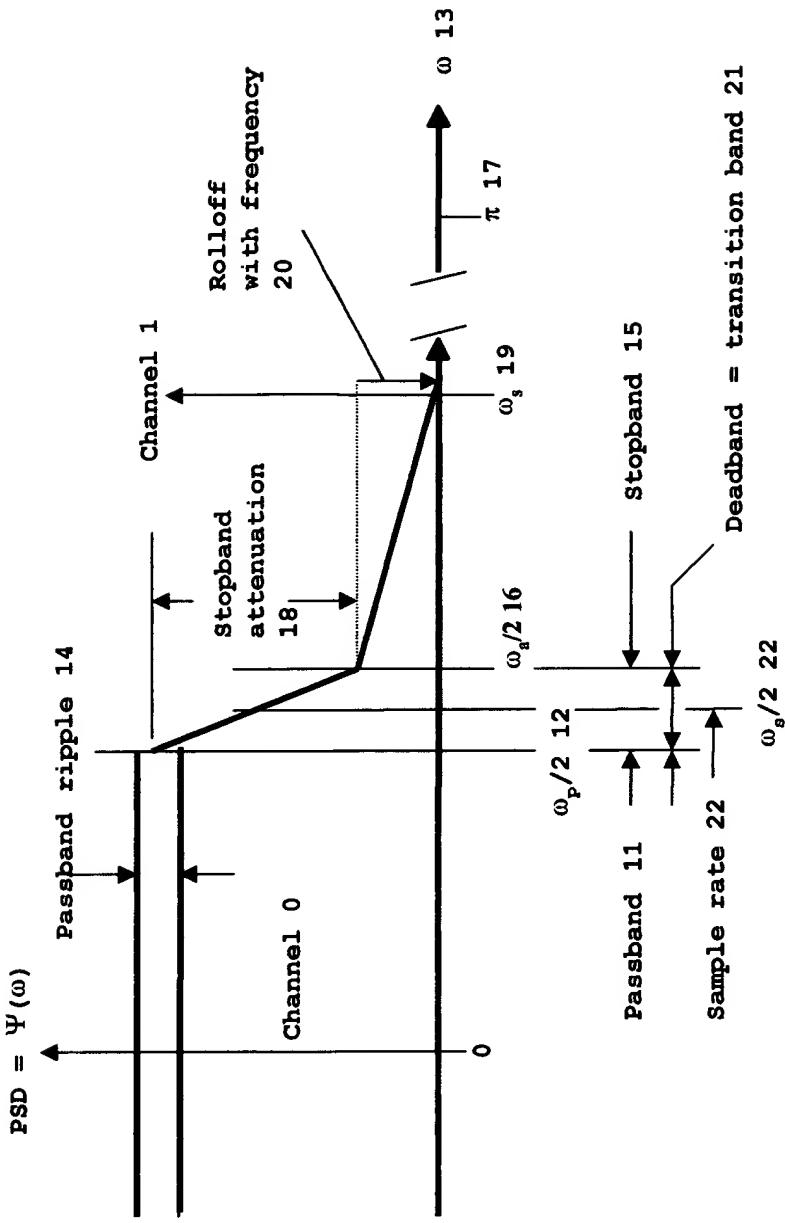
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FIG. 3 PSD Requirements for Communications



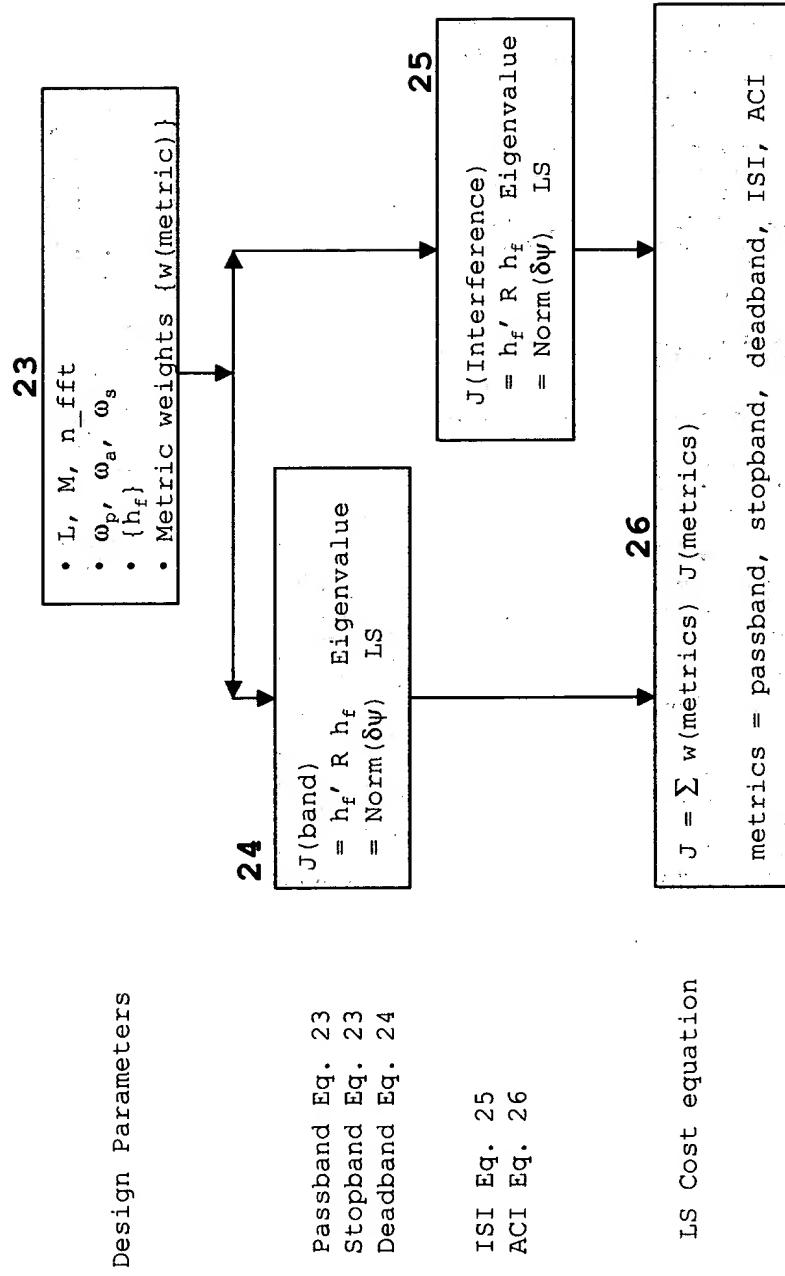
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FIG. 3 PSD Requirements for Communications



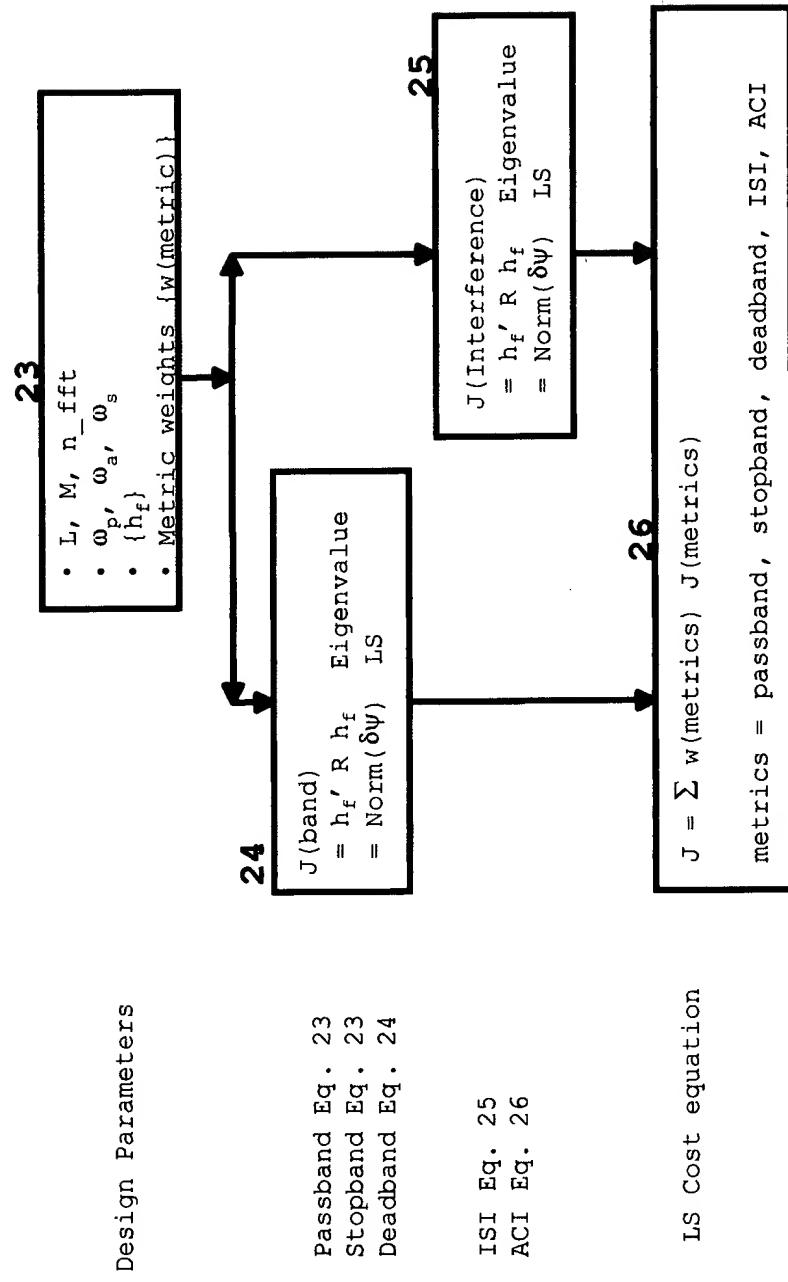
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FIG. 4 LS Metrics and Cost Function



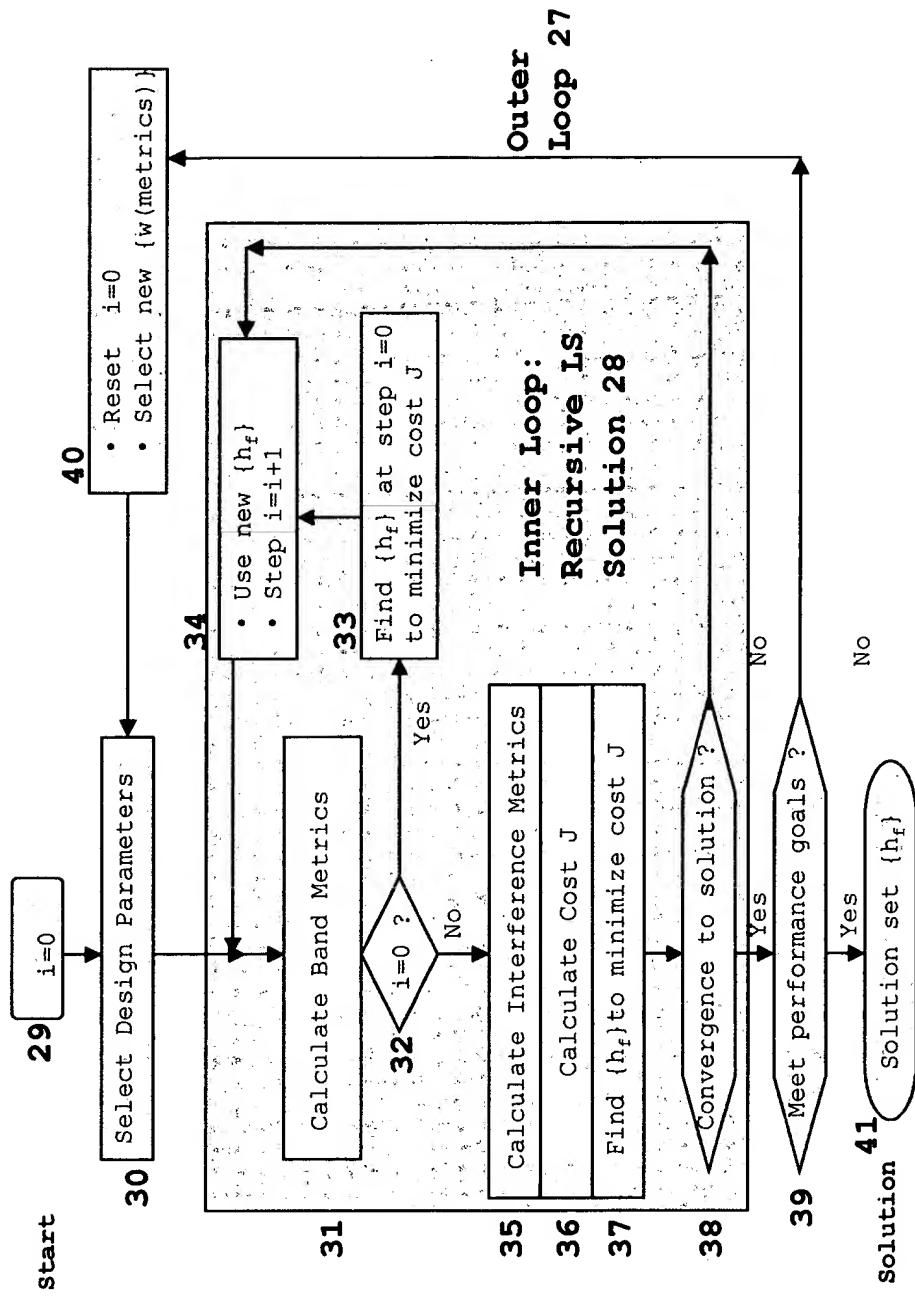
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FIG. 4 LS Metrics and Cost Function



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FIG. 5 LS Recursive Solution Algorithm



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FIG. 5 LS Recursive Solution Algorithm

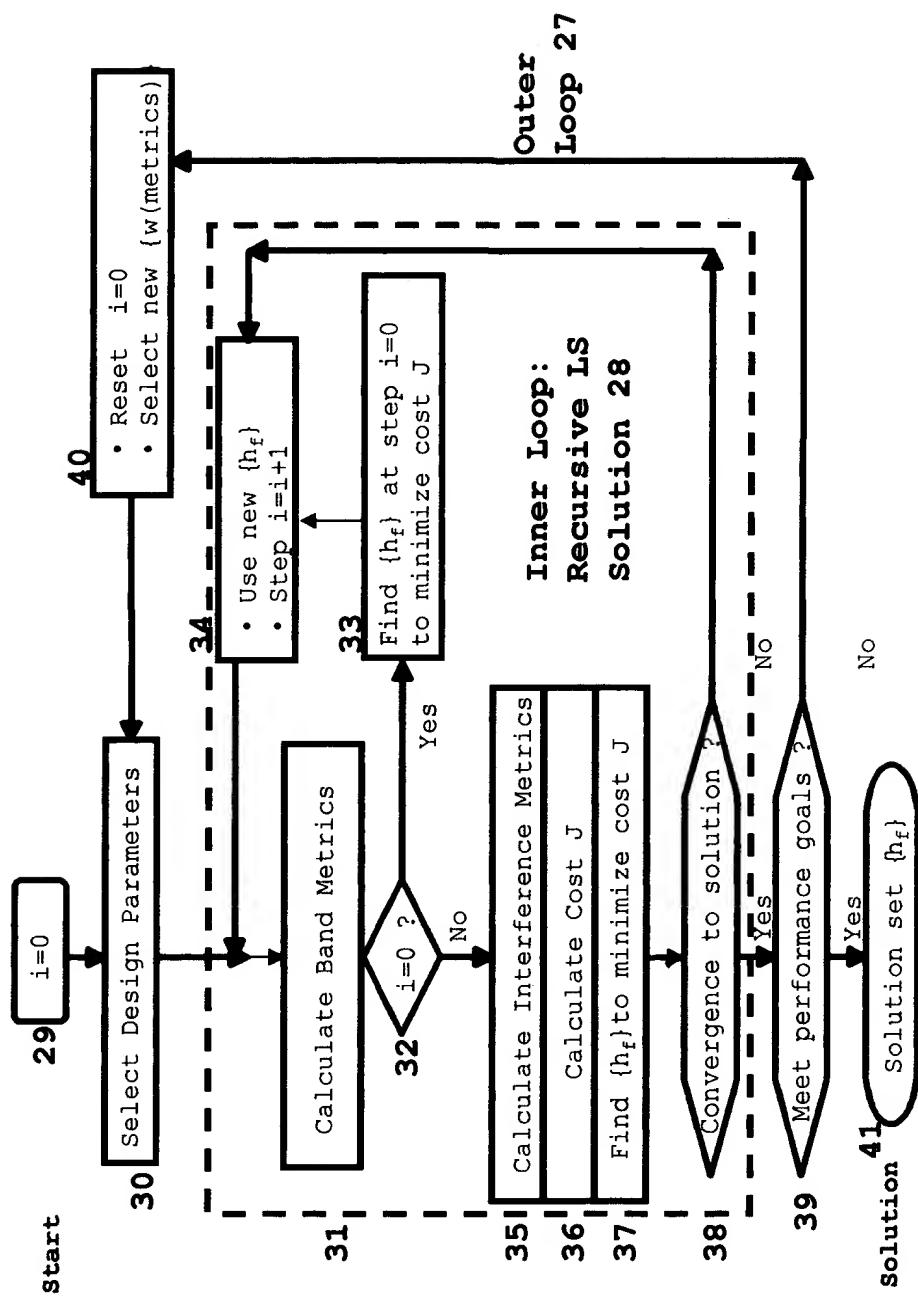
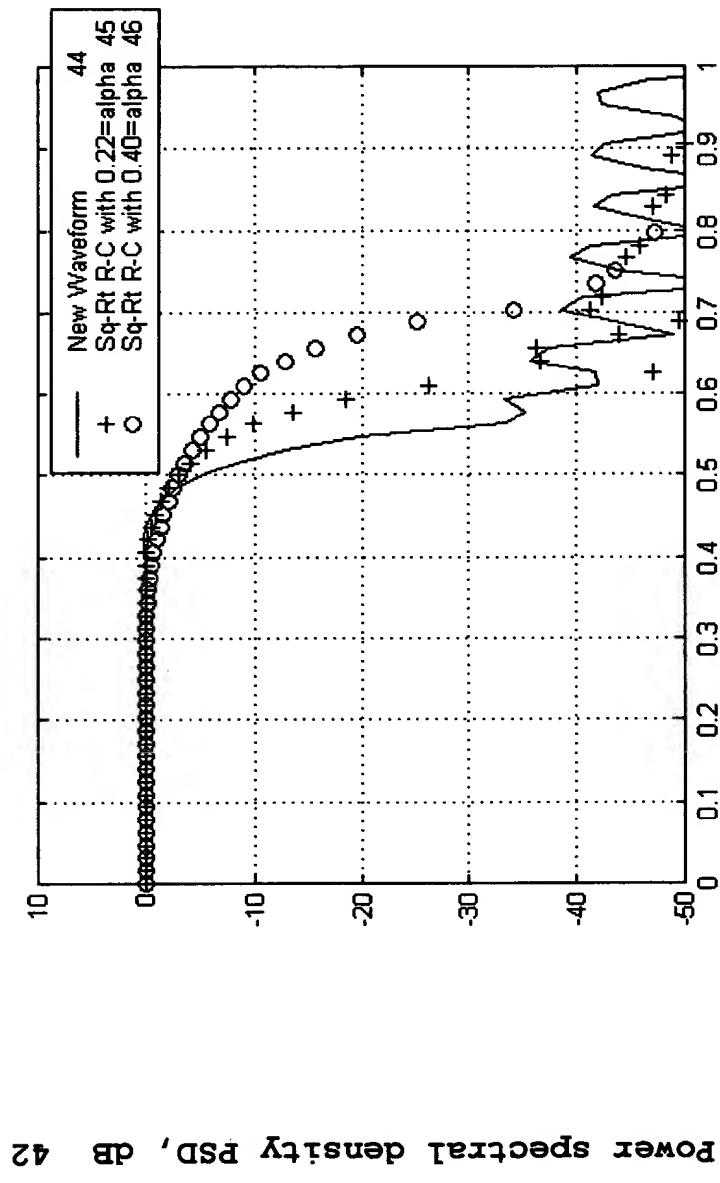
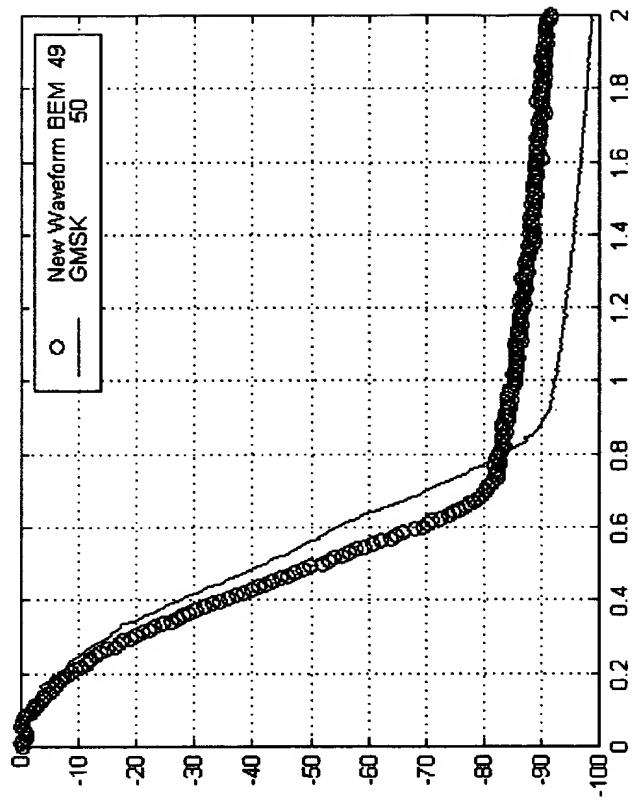


FIG. 6 PSD for New Waveform and Square-Root Raised-Cosine



Power spectral density PSD, dB 47

FIG. 7 PSD for New Waveform BEM and GMSK



Normalized frequency, bit rate 48

FIG. 8 Radar Ambiguity Functions of New Waveform and Unweighted Chirp Waveform

New Wavelet Ambiguity Function 51

Unweighted Chirp Ambiguity Function 52

